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ABSTRACT

This document contains program descriptions, definitions, recommendations, and other information on competency based education (CBE). It begins with an overview of the CBE Program of the Division of Educational Systems Development, U.S. Office of Education. Following this are descriptions of the National Committee on Performance-Based Teacher Education, the Multi-States Consortium on Performance-Based Teacher Education, the CBE Center Consortium, and the Interstate Certification Project. Four state CBE models and nine university CBE centers are described. A definition of CBE is presented along with a list of potential benefits of the competency-based approach, and a discussion of related educational concepts. A list of activities in competency based education is then presented, followed by a section containing questions and answers concerning CBE. Finally, a short bibliography and recommendations for federal program initiatives in CBE are presented. (RC)

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March 15, 1975

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COMPETENCY-BASED EDUCATION

A BRIEFING PACKAGE

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A BRIEFING PACKAGE ON CBE

TABLE OF CONTENTS

	Page
Competency-Based Education Program: An Overview	1
Competency-Based Education Projects of the Division of Educational Systems Development	4
Inter-Agency	4
CBE Centers	5
The National Committee on Performance-Based Teacher Education	6
Multi-States Consortium on Performance-Based Teacher Education	8
CBE Center Consortium	9
The Interstate Certification Project	11
State CBE Models: Texas	13
State CBE Models: Washington	15
State CBE Models: Florida	17
State CBE Models: New York	18
Columbia University Teachers College CBE Center	19
Florida State University CBE Center	21
Michigan State University CBE Center	23
Oregon State University CBE Center	25
Syracuse University University CBE Center	27
University of Georgia CBE Center	29
University of Houston CBE Center	30
University of Toledo CBE Center	31
University of Wisconsin CBE Center	32
CBE Supports Other Educational Reform Strategies: A Matrix	34
Competency Based Education - Definition	35

PAGE

The Potential Benefits of the Competency-Based Approach 36

Related Educational Concepts/Thrusts 38

Current Activities in Competency-Based Education--A National Overview . . 41

Competency-Based Education: Some Probable Questions And Some Possible Answers 45

Competency-Based Education: A Basic Library 59

Recommendations for Federal Program Initiatives in CBE 60

Competency-Based Education Program: An Overview

Objectives

The Competency-Based Education (CBE) Program of the Division of Educational Systems Development (DESD) in USOE has the primary goal of maximizing the potential of competency-based education for improving and reforming American education. In working toward that goal, the CBE program has seven major purposes:

1) to promote a widespread analytical dialogue about CBE;

2) to assess the national state of the art of CBE and provide the public with information growing out of that assessment;

3) to facilitate inter-state, interregional, and inter-professional sharing of promising products and processes in CBE;

4) to support some high priority experimental program models;

5) to provide technical assistance to institutions and educational systems developing CBE programs;

6) to assess the national storehouse of related educational concepts and software in order to facilitate more rapid program implementation;

7) to establish a national network of CBE technical assistance centers.

Background

The program was set up in 1971 following the recommendations of Task Force 72, a USOE-sponsored group composed of a cross-section of national educational leaders who consulted with more than 10,000 educators across the nation.

Program Approach

The program addresses itself to the increasing problems of the adequacy of teachers and the adequacy of their training by seeking to achieve reform from within the educational establishment rather than impose it from outside. Identification of needed skills and knowledge in terms of their effect on children can be expected to increase public confidence in the profession of teaching and in education as a whole. CBE programming also relates closely to problems associated with teacher tenure and the rising costs of teacher salaries.

The unique strength of CBE is that it challenges all who touch it to be open about their intentions. Ends must be made explicit; means must stand the test of relevance. The logic of the CBE approach places a healthy stress on the use of evidence to test ideas and assumptions.

The CBE Network

Since the early days of the competency based education movement, the Office of Education has worked closely with several states in the development of their CBE training and certification programs. Four state models were developed--in Texas, Washington, Florida and New York. Simultaneously, DESD worked with higher education in the creation and evolution of nine operating demonstration teacher training programs, called CBE Centers. Through inter-agency cooperation, in the form of the Multi-States Consortium and the Interstate Certification Project for the states, the CBE Center Consortium for higher education and the National Committee on Performance-Based Teacher Education for a mix of educational leadership, USOE has sought to keep the CBE idea flowing to and between various educational constituencies. CBE has evolved as a collaborative venture of DESD and the education professions.

Problems

At the same time CBE may prove so difficult in practice that its accomplishments fall far short of its promise. It's major shortcomings to date appear to be superficiality and fragmentation resulting from attempting to do too much with limited resources, adopting too eclectic an approach and making too narrow an interpretation of CBE.

Accomplishments

Education U.S.A., Education Quarterly, Phi Delta Kappa cite USOE as the major contributor to the development of what many view as a highly significant reform movement in the training and certification of educational personnel. Through national leadership training institutes, regional demonstrations and technical assistance centers, and an array of publications, the CBE group in USOE and the CBE projects supported have probably sparked more dialogue about CBE than any other group: 20 major monographs, three newsletters; several special Journal issues, 30 national or regional professional conferences and workshops. They have also developed over 500 CBE training packages, or modules, the best of which are stored in the DESD sponsored National Module Bank at Houston, Texas. National assessments of the state of the art and of the extent of CBE program development have been models for state education agencies and institutions of higher education. The CBE group has also conducted twelve regional and five national seminars for a cross-section of education and ten national leadership training seminars to develop a cadre of program consultants to provide technical assistance to local developers.

These leadership training programs have reached approximately 15,000 of the nation's educators.

Lessons Learned

The focused use of even limited amounts of Federal money can make a difference. Given an appropriate forum, educational leaders are anxious and willing to deal with significant questions and issues. They are also willing to pursue alternative courses of action and to share their experiences--both successes and failures-- with others.

Funding

	FUNDS EXPENDED	NUMBER OF PROJECTS
FY 71	$ 300,000	2
FY 72	825,000	15
FY 73	1,015,000	16
FY 74	1,045,000	16

Legislative Authority

Education Professions Development Act, Part D, Section 531-533, Public Law 90-35; 20 U.S.C., 1111-1119a; CFR 45-174.

For Further Information

Contact either Allen A. Schmieder, or Jorie Mark, Room 3052, ROB - 3, 7th & D Sts. S.W., Washington, D.C. 20202; Telephone - 202/ 245-2235.

Competency-Based Education Projects of the Division of Educational Systems Development

Inter-agency:

Name	Description	Funding
National Committee on Performance-Based Teacher Education of the AACTE	A cross-section of national education leaders who focus on the state of the art of CBE nationally, sparking widespread dialogue on its progress, prospects and problems; providing regional training programs and developing a national clearinghouse on CBE information.	$250,000
Multi-States Consortium on Performance-Based Teacher Education	A consortium of 13 state education agencies providing national leadership in CBE by focusing on state certification and training programs, developing management systems, and sharing experience and information.	$ 75,000
Interstate Certification Project	An organization of 31 states which have developed reciprocity of credentialling for all educational personnel employed in those states. They are currently working on the implications of the CBE movement for these reciprocity agreements and are working toward reciprocity of other benefits, such as retirement programs.	$ 50,000
State CBE Models	CBE models were developed in Texas, Washington, Florida, and New York to test the strategies developed in the national program and provide individual states with CBE developmental assistance money.	$350,000
CBE Center Consortium	A consortium of nine CBE Regional Center Directors concerned with research and development in CBE and in CBE training. Each Director coordinates a CBE Regional Center described on the following page.	$ 50,000

CBE Centers:

Each center serves as a CBE demonstration training program, provides general technical assistance to CBE program developers in the service region, and specializes in a particular aspect of CBE (see matrix on page 19)--for which they provide national training and developmental assistance.

Name	Some Special Emphases	FY 74 Funding
Florida State University Tallahassee, Florida	Teacher centering; competency specification, program management, field testing CBE modules.	$50,000
University of Georgia Athens, Georgia	University-school relationships such as collaboration, consortia, parity; CBE training programs for school administrators; CBE module development; competency specification.	$39,810
University of Houston Houston, Texas	Large-scale program implementation with emphasis on needs assessment, supervision and improvement of instruction; national module bank.	-
Michigan State University East Lansing, Michigan	CBE training materials in mathematics; humanistic education; career education.	$25,000
Oregon State University Monomouth, Oregon	Assessment and data management systems; measures of teacher effectiveness and a longitudinal design for it.	$30,000
Syracuse University Syracuse, New York	Teacher centering; state agency cooperation; training teachers of children with special needs in regular classrooms.	$45,250
Teachers College, Columbia New York, New York	Experimental program in CBE research and development; implications for various models of instruction; teacher centering; competency specification.	$25,072
University of Toledo Toledo, Ohio	Validation of operating CBE programs; CBE research and evaluation models; information-management-data systems; teacher centering, field-based support.	$27,000
University of Wisconsin Madison, Wisconsin	Use of computers in CBE; CBE module development; program management.	$18,878

The National Committee on Performance-Based Teacher Education

The National Committee on PBTE sponsors a number of activities designed to encourage experimentation with the PBTE approach to the training of educational personnel. It has five objectives:

Objective 1) Continue to study the state of the scene and the state of the art of PBTE, and to develop periodic position/recommendation papers to assist in giving direction to the PBTE movement.

Objective 2) Sponsor national and regional training institutes on PBTE, provide assistance to AACTE state associations in sponsoring statewide training sessions on PBTE, and cooperate with other national organizations in sponsoring significant national training opportunities on PBTE. After training 1500 educators in 1973-74, the Committee will conduct five regional Leadership Training Institutes (LTI's) on PBTE in 1974-75 to assist interested teacher educators and key education leaders from elementary and secondary schools to learn more about the PBTE concept; to assist interested teacher educators to design and implement PBTE programs; to assist operators of PBTE programs to upgrade the quality of their programs; to assist colleges, universities, and schools to develop more effective collaboration methods in designing and implementing PBTE programs; and to examine the implications of implementing PBTE programs in in-service education.

Objective 3) Publish pertinent monographs, technical assistance papers, and articles about PBTE and related topics. Morographs to date have covered:

Performance-Based Teacher Education: What Is the State of the Art?

The Individualized, Competency-Based System of Teacher Education at Weber State College

Manchester Interview: Competency-Based Teacher Education/Certification

A Critique of PBTE

Competency-Based Teacher Education: A Scenario

Changing Teacher Education in a Large Urban University

Performance-Based Teacher Education: An Annotated Bibliography

Performance-Based Teacher Education Programs: A Comparative Description

Competency-Based Education: The State of the Scene

A Humanistic Approach to Performance-Based Teacher Education

Performance-Based Teacher Education and the Subject Matter Fields

Performance-Based Teacher Education: Some Measurement and Decision-Making Considerations

Issues in Governance for Performance-Based Teacher Education

Performance-Based Teacher Education Design Alternatives: The Concept of Unity

A Practical Management System for Performance-Based Teacher Education

Achieving the Potential of Performance-Based Teacher Education: Recommendations

Monographs in the works include studies of the Oregon College of Education program on the evaluation of teacher performance, a paper on historical antecedents of PBTE as well as articles on PBTE from teachers' perspectives and PBTE and inservice education. Moreover, a series of technical assistance papers will be published targeted to the needs of PBTE program operators.

Objective 4) Develop and operate AACTE's Clearinghouse on PBTE.

Objective 5) Cooperate with other national agencies, regional and state associations, and other related education association programs to stimulate improvements in education personnel development by promoting the study of and experimentation with the potential of PBTE.

Advised by a 27-member Advisory Council with representatives from colleges and universities, professional teacher organizations, state departments of education, teacher education students, and other national and regional agencies concerned with PBTE, the Project is under the general direction of a 10-member Committee.

The project is administered by Dr. Karl Massanari, American Association of College for Teacher Education, One Dupont Circle, N.W., Washington, D.C., 20036. Telephone 202/293-2450.

Multi-States Consortium on Performance-Based Teacher Education

The Multi-State Consortium, was set up in 1972 to assist each of the participating states in developing and implementing performance-based teacher education programs and certification policies. In order to accomplish these goals the participating states are moving in two directions:

1) developing management plans, and

2) improving the communication and dissemination of information about performance-based teacher education and certification.

To date, 13 states have joined: Arizona, California, Florida, Michigan, Minnesota, New Jersey, New York, Oregon, Pennsylvania, Texas, Utah, Vermont, and Washington. All of them have mandated CBE as a primary or alternative system for teacher education and certification in their states. Through their leadership, a national network has been developed of people interested in CBE totaling 3,000 individual names and growing daily. An important medium for disseminating information on CBE to this network and others is the Consortium's PBTE Newsletter, a monthly publication on CBE developments, issues and activities.

Other important dissemination activities of the Consortium include the publication of a document on Assessment, a monograph on CBE and multi-cultural education, two CBE resource catalogues, The Catalogue of Teaching Skills, A Catalogue of Concepts in the Pedagogical Domain of Teacher Education. The Consortium keeps the public informed of state CBE developments by yearly publication of Profile of the States in CBE. The Consortium has undertaken a cost study project at Syracuse University. Two other monographs are planned for the immediate future, one on governance of teacher education and the other on legal implications of CBE.

The project is administered by Dr. Theodore Andrews, Multi-States Consortium on Performance Based Teacher Education, New York State Department of Education, Albany, New York 12210. Telephone 518/474-6440.

CBE Center Consortium

The CBE Center Consortium brings together the directors of the nine CBE Centers located across the nation to coordinate their activities and provide CBE leadership at the national level. The Consortium serves as a conceptual forum focusing on the refinement and advancement of CBE concepts and models while it provides developmental assistance to meet national priority CBE needs.

The Consortium has undertaken a series of regional and national "think-tank" symposia and publications on key CBE tops such as necessary research, performance assessment, management, and quality standards for materials development. Two major papers have already been developed. One is a position statement on the criteria for CBE. The other is a careful examination of CBE research needs. A series of eight leadership training institutes on CBE has been mounted for the 1974-75 year by the Consortium, each being held at a CBE Center. Topics include:

1) The Use of the Computer in CBE

2) Research and ecaluation in operational competency-based teacher education.

3) Design of institutional follow-up studies.

4) Collaboration and team building in a CBE program.

5) Clinical supervision.

6) Teacher Centers.

7) Mainstreaming: diagnosing and prescribing for teachers of children with special needs in regular classrooms.

8) CBE training materials in mathematics education.

Each of the nine CBE Centers is an outgrowth of CBE design and development activities begun in 1968 as the Comprehensive Elementary Teacher Preparation Models, supported by USOE's research bureau and continued under the auspices of the Division of Educational Systems Development and Teacher Corps. Today the Centers are:

1) conducting research and development activities in the context of implementing a variety of CBE pre-service and in-service program models.

2) providing developmental assistance and training services for those interested in installing CBE programs.

Each Center presents a unique profile of CBE activity and capability. All are engaged in some phase of implementing CBE programs. Seven have operational or pilot programs. All are developing and/or have developed CBE products such as teacher preparation modules, assessment systems, competency lists, management systems and theoretical papers.

The project is administered by Dr. John Hanson, National Consortium of Competency Based Education Centers, 415 North Monroe, Florida State University, Tallahassee, Florida 32301. Telephone 904/644-2519.

The Interstate Certification Project

The interstate certification project is giving teachers another alternative to traditional certification practices, one of the major stumbling blocks to teacher mobility which often forces teachers to stay in situations where they aren't happy. Faced with the dilemma of the so-called teacher surplus plus the red tape of a new state bureaucracy and requirements for basic courses not needed elsewhere, some well-qualified, experienced teachers have been forced to seek jobs outside the profession. Others have wasted time and money meeting sometimes arbitrary teaching requirements which they feel have no relationship to making them better teachers. Begun in 1966, the project encourages that qualifications of teachers educated or experienced in one state be recognized elsewhere without bureaucratic hassles. To join the project, states must pass enabling legislation and enter into a standard agreement with other involved states on how cooperative programs to promote interstate movement will be developed. They then work out specific contracts with other states.

The interstate contracts, with a five-year maximum duration, cover a state's requirements for new school personnel and the substitutions it finds acceptable without sacrificing basic educational standards. Cooperating states will certify teachers who have graduated from state-approved educational institutions or who have been certified by another participating state on the basis of satisfactory service.

The project has already resulted in a drastic cutback in correspondence and red tape for state education departments and teachers moving among the 31 states and the District of Columbia which have signed contracts. In addition prospective teachers are exercising greater freedom in selecting out-of-state colleges since they no longer have to worry about being accepted for certification at home or in other states.

The legally binding interstate agreement and contracts provide a more secure certification system than other short-lived "Gentlemen's Agreements" some state education officials have tried. No state can withdraw from the contract until one year after authorizing legislation is repealed.

Of the 32 jurisdictions with enabling legislation, 28 have signed multilateral contracts covering teachers, 12 have contracts for administrators and support personnel, and 10 cover vocational education personnel. Participation to date has resulted largely from support by professional organizations, including education associations.

States which have not yet enacted legislation are: Alabama, Arizona, Arkansas, Colorado, Georgia, Illinois, Kansas, Louisiana, Michigan, Mississippi, Montana, Missouri, Nevada, New Mexico, North Dakota, Oregon, Tennessee, Texas, and Wyoming. A number of these states are currently considering participation in the project.

The agreement enables states to examine and update their certification standards and policies, and higher education institutions to upgrade teacher preparation programs since they must meet participating states' standards before being accepted for an interstate approved list.

The project is administered by Dr. Helen Hartle, Interstate Certification Project, New York State Department of Education, Albany, New York 12210, Telephone 518/474-6442.

State CBE Models: Texas

In 1969 the Texas State Board of Education appointed two state-level groups to study the problems and make recommendations to the Commissioner and Board on needed changes in the preparation and certification of school personnel in Texas. By early 1970, data generated by these groups pointed to the unequivocable need to change the way school personnel were being trained and certified. As a result, in 1970 with federal (USOE-DESD) and state support four universities in the state--the University of Houston, University of Texas at El Paso, West Texas State, and Texas Christian--utilizing state and federal support, began to plan and implement programs which would serve the state of Texas as CBE developmental sites.

The two study groups, drawing heavily upon the experience of the few demonstration programs, presented their findings to the Commissioner and the State Board. And in June 1972, the State Board adopted these recommendations and approved a new program for the preparation and certification of Texas school personnel. The program:

1) Revised the teacher education standards for approval of those institutions of higher education desiring to prepare school personnel.

2) Established a new cooperative structure--called teacher centers--for the development and approval of preparation programs for school personnel.

3) Laid out the intent and direction for developing a competency/performance-based program of teacher education and certification. This new program was to be based on demonstrated competence and performance of activities identified as necessary for effective teaching.

4) Established a five-year transition period (September 1, 1972 through August 31, 1977) for the development and the implementation of the new program in all 66 teacher training institutions in Texas.

By September 1972, through a university-based change agent schema and the developmental efforts of the four universities, all funded jointly by state and federal funds, 15 institutions of higher education were committed to developing and implementing CBE training programs. Their information was to be shared through the network of Texas teacher centers with all teacher training institutions in Texas as well as interested outside developers.

In January 1974 the Attorney General of Texas ruled that it was not within the authority of the State Board of Education or the State Commissioner of Education to mandate CBE as the only program for preparing school personnel, but that they did have the authority to promulgate rules and regulations providing alternative plans, of which one or more could be CBE. Such rules and regulations were subsequently set forth. By January 1975, 35 institutions of higher education in Texas had established over 200 approved CBE preparation programs.

As a direct result of state and federal CBE funding support, 17 institutions of higher education in Texas have implemented CBE programs involving over 5,000 teacher trainees. They have also developed, tested and modified over 4,000 training modules in areas ranging from reading competencies to bi-lingual, bi-cultural competencies needed for effective teaching. In addition, performance assessment procedures and systems are in place in these institutions as well as computerized systems for tracking individual trainees through competency-based programs. The 17 universities are now in the second year of developing management systems for more effective operation of CBE in-service and pre-service training. The over-all project is called the Texas Center for the Improvement of Educational Systems.

Competency-based education and certification is felt as a necessity in Texas if teacher education is to be accountable for its products. To date, the Texas state investment in CBE is over $5 million. Continued state and federal support is critically needed for:

1) further CBE programmatic and certification developmental efforts,

2) dissemination efforts including technical assistance for program and/or system installation,

3) extensive research and evaluation on the effectiveness and cost of CBE programs,

4) material resource centers to serve as clearinghouses for CBE training efforts,

5) state, regional and national level training opportunities that would provide some of the technical assistance necessary to CBE programming.

The project is administered by Dr. Harlan Ford, Texan Education Agency, 201 East 11th Street, Austin, Texas 78701. Telephone: 512/475-3723.

State CBE Models: Washington

After adoption by the State Board of Education of competency-based certification guidelines and standards in 1971, consoritum/planning groups--consisting of institutions of higher education, school districts and professional bargaining association--have been at work throughout the state. Twelve competency-based programs from all corners of the state had been approved by the State Board of Education by December 1974. Ten more programs will be approved by June 1975. In addition, 32 more consortia in the state are involved in some phase of CBE program planning. Most progress has been made to date with support service personnel preparation programs (e.g.: counselors, psychologists,social workers), although consortia are designing programs for teachers and administrators as well.

Greatest success thus far has been the demonstration of the viability of a collaboration (or parity) model and the feasibility of emphasizing competence in contrast with course credit in teacher preparation. Greatest problems have been in establishing state-wide management structures and securing essential funds for development and implementation of programs.

In July 1974, the State Board of Education adopted recommendations from a year-long study conducted by an ad hoc committee. In implementing those recommendations, a line item--totaling just under $425,000-- has been place in the 1975-77 biennium budget requests of the Superintendent of Public Insrution and the Governor to fund pioneer CBE programs. These funds are sought in order to study the effectiveness of the programs as well as to make cost comparisons with programs under former certification standards.

Although all persons certified for support service role assignments in Washington must now meet performance standards established by approved consortia under 1971 guidelines and standards, teachers and administrators may secure certificates under either former (1961) or new (1971) standards. Currently, two teacher preparation programs on the CBE model exist: 1) Elementary teacher preparation: University of Washington - Shoreline School District--North Shore School District--Shoreline Education Association and North Shore Education Association, 2) Foreign language teacher preparation: Western Washington State College with Bellevue School District and Bellevue Education Association.

Five principles, approved by the State Board of Education, permeate CBE program development in Washington:

1) competency

2) field-centeredness

3) collaboration

4) continuing career development

5) individualization

The project is administered by Dr. Edward Lyles, Superintendent of Public Instruction, Old Capitol Building, Olympia,Washington 98504. Telephone: 206/753-1032.

State CBE Models: Florida

A major policy decision was made by the 1974 Florida legislature to improve teacher education in Florida. Under that decision responsibility for all of teacher education in Florida--pre-service and in-service--was assigned jointly to universities and colleges and school systems. Implementation started in 1974 when the legislature authorized that ten teacher education centers be established. Nine centers are currently operating in association with the following universities: West Florida, Florida State, Florida A&M, University of Florida, Florida Technological University, University of South Florida, Florida Atlantic, and Florida International. A tenth center, servicing the rural Panhandle Area Educational Cooperative, operates jointly with Florida State, Florida A&M and the University of West Florida.

In addition to establishing teacher education centers, the Florida legislature in 1974 earmarked $7 ½ million for inservice teacher education in Florida. The funds, administered through the Florida In-Service Master Plan, will be made available only to school districts whose approved master plans are CBE-based. To date, 67 school districts and one youth training center are utilizing these funds.

Past support for the CBE movement in Florida has also come from state funds. Among the accomplishments are:

1) The development of a catalogue, Florida Competencies for Teacher Education, published by the Florida Department of Education as a major resource for the development of CBE programs by higher education institutions and school districts.

2) The creation and field-testing of 85 individualized teacher training modules now available at cost to in-state and out-of-state teachers. To date, over 70,000 copies have been sold.

3) A center has been established in the Florida Department of Education tied to a network of 12 satellite centers based at Florida's nine state universities, the University of Miami, Stetson and Jacksonville Universities--for reviewing and field-testing CBE materials.

4) A management system for use by both traditional and CBE teacher education programs has been implemented at Florida State and Florida International Universities. This system, adaptable to both data processing and hand tabulation, is available to any other Florida institution operating a teacher education program.

The project is administered by Dr. Charles Reed, Florida Department of Education, Tallahassee Florida 32304. Telephone: 904/488-1916.

State CBE Models: New York

The 1972 regents statewide plan established that teacher education and certification should be based upon the system of demonstrated competence and should closely link academic and field experience.

In New York State competence based teacher education and certification implies the following:

1) A readily available and explicit statement by preparatory programs that identifies

   a) the knowledge, skills, and attitudes expected of graduates in general education, the subject matter fields as well as in the professional study of education based upon a conceptualization of the role for which people are being prepared,

   b) the education program that will address these skills, attitudes and knowledge,

   c) the evidence that will be acceptable to show that program expectations are being met,

   d) the evaluative mechanism by which the program will be modified in light of experience.

2) A system of governance for teacher preparatory programs that includes representatives of the schools, their professional staffs, and the college or university.

A five-year timetable has been established for gradual implementation of CBE programs according to the level or subject speciality of preparation. The timetable goes into operation in February 1, 1975 when all elementary and special teacher education programs must be submitted under these new guidelines.

To date, the New York State investment in CBE has totaled about $60,000 with a budget request to the legislature of over $500,000 for 1975-76.

The project is administered by Dr. Theodore Andrews, New York State Department of Education, Albany, New York 12210. Telephone: 518/474-6440.

Columbia University Teachers College CBE Center

The Teachers College CBE Center has attempted to develop a software base for a competency-based Teacher Center built around a set of instructional systems from which teachers can select those which meet their individual needs for teaching skills.

In order to build the necessary software, development and research have been concentrated on products which would offer a wide variety of skills to teachers.

The core of these instructional systems is the set which is constructed to teach teachers a variety of models of teaching. A model of teaching consists of guidelines for designing educational environments through specifying ways of teaching and learning to achieve certain kinds of goals. It includes a rationale of its likely effectiveness and may be accompanied by empirical evidence that it works. In designing this component, models were deliberately selected representing different frames of reference toward educational goals and means so that the trainee would explore a variety of philosophical and psychological positions and be able to make them come to life in the classroom. In the beginning of the component the trainee explores a few models representing alternative views of educating. Later he chooses from a larger number of ones he is expecially interested in.

Over the last several years, the Teachers College CBE Center has been developing these systems, testing them, and conducting research on their acceptability to teachers and their effectiveness in helping teachers increase their reportoire. (See page 20.)

During 1974-75 the focus is on completing several systems, especially on profuction of demonstration tapes, and in readying research reports for dissemination.

The CBE Center also provides general training and developmental assistance to CBE programs in the area and instructional training programs in CBE for national educational leaders.

The project is co-directed by Bruce Joyce and Marsha Weil, Teachers College, Columbia University, New York, New York 10027. Telephone: 212/678-3771.

The Matrix of Instructional Systems

General Competency Areas of Systems (The systems are designed to enable teachers to acquire competence in these areas.)	Specific Content Areas		
Models of Teaching	Role Playing	Concept Learning	Group Investigation
	Social Sciencing	Synectics	Behavior Modification
	Instructional Management	Nondirective Teaching	Advance Organizer
	Awareness Training	Classroom Meeting	Inquiry Training
	Human Relations	Juris-prudential	Natural Science
Interaction Analysis	Introduction to Classroom Observation	Analysis of Teaching	Feedback Giving
Teaching Skills	Structuring Feedback	Modulating	Focussing
Curricular Decision-Making	Reading Bank	Social Studies Bank	Science Bank
	Mathematics Bank	Language Arts Bank	General Bank
Instructional Decision-Making	Selecting Objectives	Selecting Models	Evaluating Learning Outcomes
Teaching Effectiveness Laboratory (Learning Materials with tests)	Hemingway Bank	Banbury Bank	Three Science Topics
	The Pueblo Bank	The Binary Problem	Voting Rights in Mississippi
	The Roussillon Bank	The Medieval Town	

Florida State University CBE Center

The CBE Center at Florida State University Operates under the name Teacher Education Projects (TEP). With base-line funding from USOE, TEP provides organizational and support services for several efforts related to competency based education:

1) development of training materials for use in pre-service and in-service education (list of products available from TEP office).

2) operation of competency-based teacher education center site in Tallahassee, Florida (Astoria Park Program).

3) field testing and application of a research-based model for needs assessment and diffusion (designed and developed by TEP with support from Florida R & D program).

4) coordination and conduct of CBTE visitations and demonstrations at FSU.

5) design and development of computer-based, information management systems for use in competency-based programs.

Competency-based teacher education as conceptualized and developed by TEP is an eclectic derivative from second generation models developed initially at FSU, OCE, and University of Houston. This model is best represented by the program in operation at Astoria Park Elementary School. Fifty-six senior undergraduates spend a full professional year and thirty in-service teachers are provided with informal training in the program staffed by eight FSU faculty members.

Instructional delivery to all participants is at the Astoria Park site; modules and direct classroom instruction are provided as appropriate. A basic set of competencies underlie the program and are assessed at three levels: (1) knowledge or skill as demonstrated on mastery-type tests; (2) simulated or micro-performance; and (3) on-the-job type performance assessment negotiated by the trainee with university and public-school personnel to fit the teaching context to which he is assigned. Competencies beyond basic competencies are treated very informally and selection and acquisition vary according to trainee readiness and the instructional setting to which they are assigned. All participants, pre-service and in-service, function daily as members of twelve member teaching teams responsible for the instruction of approximately 140 elementary pupils for kindergarten to fifth grade.

Program content and governance is accomplished by a site council which includes representation from all involved participant groups and staff. A set of basic operational policies was developed and agreed to by that council in advance of program implementation. Regular meetings of that group serve to monitor policy implementation and/or modify policy as needed.

The CBE Center also provides coordination for the National Consortium of CBE Centers, as well as general training and developmental assistance to CBE programs in the area and training programs in teacher centering in CBE for national education leaders.

The project is directed by Dr. John Hansen; Johnston Building, 415 North Monroe Street, Tallahassee, Florida 32301. Telephone: 904/644-2519.

Michigan State University CBE Center

In 1967 Michigan State University was invited to participate in the elementary models' program, conducted under the auspices of the Bureau of Research, United States Office of Education. This is a convenient baseline date to mark the beginning of the development of a competency-based teacher education program at M.S.U. The grant award in 1968 which produced the Behavioral Science Teacher Education Program (BSTEP) Model and the feasibility study grant in 1969 laid the foundation for subsequent activities.

The first step in implementation was to concentrate on pre-service coursework within the College of Education. The Basic Council of the College expanded its membership to include the directors of all projects related to teacher education, e.g. TTT, Teacher Corps, Protocol Materials, etc. The basic courses in the professional sequence were redesigned and the entry course, Education 200, moved to adopt competency based criteria standards for student achievement. The Teacher Center grant of 1971-72 enabled the central staff of Education 200 and other basic programs to explore, assess and plan for the in-service implications of CBE standards. The momentum toward full implementation of an articulation pre-service/ in-service teacher training model characterized by competency criteria was thus established.

The complexity of the problems related to the installation of CBE programs is such that coordination and systematic trials needs to be conducted over a schedule of years. For example, new relationships with state education agencies, schools, teacher groups and community people are necessary parts of a CBE program, if the competency criteria and, indeed, the competencies themselves are to be at all relevant to student needs and the resources available.

The Teacher Center Project reflects one aspect of the on-going flow of activities aimed at the final installation of CBE at Michigan State University. It is an especially important project because it is conducted in linkage with eight other institutions in the National Consortium of CBE Developers. The combined resources of these institutions strengthens the individual institutional efforts, through a sharing of ideas, methods, materials and an open testing and criticism of the plans and products of each institution.

Among the accomplishments of the Teacher Center Project is the over-arching requirement that CBE programs be conducted in open communication and cooperation with school district personnel. The achievement of real peer relationships on the several committees is a crucial ingredient of our successes. The long range evidence of effectiveness in defining competencies in both categories, generic and content-specific, and in the corresponding training toward mastery of such competencies, can only be gathered on the basis of this type of peer cooperation. The feature of permeating the content-specific competency statements and training modules with the tasks of teaching model is unique to M.S.U. To obtain a completed

example of this feature, it is necessary to extend the installation efforts in at least one content-specific area. The area chosen for such extended treatment is mathematics. In the spring of 1975 a CBE National Conference will be held at M.S.U. to disseminate the results of the mathematics component, including materials, of the Teacher Center Project.

The project is co-directed by Dr. J. Bruce Burke and Dr. Perry Lanier, Michigan State University College of Education, East Lansing, Michigan 48823. Telephone: 517/355-1903.

Oregon State University CBE Center

The major accomplishments to date of the Oregon State University CBE Center are:

1) The development of a system to assess the competence of teachers in

- lesson teaching
- short term (2-5 days) full responsibility teaching, and
- extended (2-5 weeks) full responsibility teaching.

Under the system, college and school supervisors use high inference rating grouped around the performance of major teaching functions, coupled with a listing of the indicators on which each high inference rating is based. User guides and assessment forms are available for all levels of the system.

Currently the University is extending the system to cover assessment of long term (2-5 months) full responsibility teaching.

2) The development of a computer based information management system for the competency assessment data, including an extensive set of computer programs designed specifically for the analysis of these data.

3) The design of a comprehensive and long term research program in teacher education that makes use of the competency assessment data collected in the program as well as program capacity for its management and analysis.

4) The development of a program assessment system that provides for periodic feedback from all participants on the program's perceived effectiveness, its areas of needed improvement, and time requirements.

5) The initial design of a follow-up study for graduates of teacher preparation programs based on the findings of a national conference sponsored by the Center late in 1974.

6) The development of a consortium based, field centered inservice preparation program that responds to the new directions adopted by the Oregon Board of Education in fall 1974. This program is currently in proposal form.

7) Providing general training and developmental assistance to CBE program developers in the Pacific Northwest and training programs in assessment in CBE for national educational leaders.

The CBE Center also provides general training and developmental assistance to CBE program developers in the area and training programs in assessment in CBE for national educational leaders.

The project is directed by Dr. H.D. Scholock, Oregon State System of Higher Education, Monmouth, Oregon. Telephone 503/838-1220.

Syracuse University CBE Center

The focus and goal of the Syracuse CBE Center is to completely redesign teacher education at Syracuse University -- moving to a personalized, systemic, self-paced, modularized, diagnostic, competence-oriented, multi-model, regenerative, criterion referenced, field contered comprehensive program.

More specifically the Syracuse CBE Center is committed to develop:

a) A personalized orientation-entry component whereby students enter the program after a thoughtful consideration of the career options and the goals of the individual.

b) A systematic personalized data profiling and tracking system.

c) A personalized program planning component wherein programs are developed which are consistent with the specific goals, values, and personality of the individual.

d) A Training and Development Component which has three phases:
   1) The development of a reportoire of basic skills, concepts, and affective dispositions.

   2) Functional Clusters of basic enablers. These are interrelated skills and cognate clusters that come together by virtue of such things as professional role (decision-maker, diagnostician, classroom manager) or academic discipline (reading, math, science, etc.).

   3) The Development of a reportoire of Teaching Strategies -- focusing on the task of organizing (orchestrating) basic enablers and/or clusters for specific intended outcomes. (i.e. the teacher can use the same concepts and many of the same skills, but by organizing differently can produce very different results -- direct/indirect; humanistic/behavioristic teaching).

   Students moving through this Training and Development Component are assessed against knowledge, performance and product criteria.

e) Teaching Centers which are a major facilitating vehicle for delivering both preservice and inservice programs. The Teaching Center, physically, is a cluster of school buildings. Organizationally it is a partnership between schools, one or more preparatory institution, professional associations, the state department of education and students.

   The Teaching Center is staffed by personnel who are jointly selected, employed and salaried by the university and the school system and serves the university by providing personalized training and development for graduate and undergraduate university students and delivers on-site, cost-free graduate education

and in-service education to school staff.

As of the Fall 1974 semester the design was fully implemented for some 250 students in Elementary and General Teacher Education. The Secondary Education areas will be phased in over the next two years.

A catalogue of mini-courses, workshops, seminars, and independent study options has been developed, and formal courses have been replaced with less formal, more highly focused options from which individualized programs are built.

The CBE Center also provides general training and developmental assistance to CBE program developers in the area and training programs in mainstreaming in special education in CBE for national educational leaders.

The project is directed by Dr. James F. Collins, School of Education, Syracuse University, Syracuse, New York 12310. Telephone: 315/423-4753.

The University of Georgia CBE Center

Since the inception of the Competency Based Teacher Education program, a process has been occurring which synthesizes the qualities of a traditional course structure with the characteristics of a humanistic and competency based curricula. On each of the three teams that are participating in the program, there are about thirteen university faculty members, seventy college students, as well as the principals and faculties of two elementary schools. Salient features of the program include: a democratic system of governance; an extensive field experience; a humanistic climate; and a team approach to specifying, teaching, and evaluating curriculum objectives. One of the most interesting aspects of the Georgia CBE program is the inclusion of a human relations counselor who conducts training sessions for the interns based on the Carkuff model.

One of the major projects at the CBE Center has been the development of a research design which will be used to evaluate the Competency Based Teacher Education program. It is a comprehensive evaluation planned to measure the progress of students and to judge the effectiveness of all program components. Among the dimensions of this assessment design are: 1) entry test data on all students; 2) analyses of the characteristics of a dynamic program; 3) exit test data on all students; and 4) follow-up study of graduates in terms of effective teaching. These data are fed into a system for evaluation which is characterized by regenerative features. We are now in phase one of this research project.

Numerous faculty members are actively involved in consulting, researching, and other competency based related activities. One of the objectives of the CBE Center is to design and implement a competency based in-service teacher education program. Therefore, several schools in Georgia and across the nation have worked cooperatively with the staff in developing an appropriate strategy for in-service education. For example, at Thomas Jefferson Guice School in Atlanta, competencies were identified to help implement an individualized program. Then the faculty prepared materials which will serve as a foundation for staff development activities. Currently an assessment instrument is being developed based on the needs of the staff and the specified competencies. In addition to the competency based activities that are related to education, other organizations such as health services are requesting consultants and information to apply competency based principles to their needs.

Various departments within the College of Education (math, science, social studies, reading, etc.) have prepared bulletins, modules, articles, and other materials that have been disseminated internationally. A CBE publication list is available upon request.

The project is directed by Dr. Gilbert Shearron, University of Georgia College of Education, Athens, Georgia 30602. Telephone: 404/542-4244.

University of Houston CBE Center

The Houston Competency-Based Center provides an elementary and secondary teacher preparation program that is competency-based, personalized and designed through systemic procedures. The program, operated by a consoritum called the Houston Teacher Center, is field and campus-centered. It synthesizes a number of programmatic and organizational innovations.

Competencies are stipulated at three levels of criteria: cognitive, performance, and consequence. The program focus is on the latter two. It seems far more relevant in a teacher education program to emphasize what a teacher can do and what he can accomplish as a result of his actions than simply what he knows. The program emphasizes development of effective prospective teachers who are students of human behavior and rational decision makers who can demonstrate a wide range of teaching styles, with competencies designed around these attributes.

The instructional unit in the program, replacing courses, is the Learning Module--composed of specific objectives, a prospectus, alternate enabling activities (with student-identified activity as one option), pre-assessment, and post-assessment. The program designed a training package for faculty, Developing Learning Modules, which was composed of a worktext and five slide tapes and which modeled modules they were developing for prospective teachers.

Self-pacing through the program and student-advisor selection of competencies to be demonstrated combine to individualize the program. In addition, personal-professional counseling is provided students by counselor educators. A personal assessment inventory provided initial data for a series of individual conferences. A one-week retreat at the beginning of the program emphasized personal assessment and team building. Micro-teaching lessons are critiqued by a curriculum specialist and a counselor,based on teaching content, strategies, and interaction.

Systemic procedures were employed in program development. A comprehensive study of problems of teachers in multi-ethnic settings was completed as part of a needs assessment which included interviews with parents, pupils, teachers, and administrators. Library searches generated data which were employed to test proposed program models.

An evaluation unit assesses the viability of each module and of the program focus. These procedures are designed to lead to a more regenerative program.

The CBE Center also provides general training and developmental assistance to CBE program developers in the area and training programs in clinical supervision in CBE for national educational leaders.

This project is directed by Dr. W. Robert Houston, University of Houston, Houston, Texas 77004. Telephone 713/749-3621.

The University of Toledo CBE Center

The University of Toledo CBE Center contains the development and implementation of the Ohio (Toledo) model competency-based teacher education program and its concomitant program of Individually-Guided Education (IGE) in the cooperating school system. This continues to be a comprehensive approach to preservice and inservice education, involving numerous, interrelated activities.

The specific activities, many of which are continuing from previous years, are as follows:

1) The Ohio IGE network has been the basis for forming a state-wide network committee to survey the twelve state universities in Ohio on the present state of the art in CBE and to prepare a task analysis paper on how to develop and implement CBE in university teacher education programs. The general effort is directed to the continued development and incorporation of CBE programs in the state universities of Ohio.

2) Three inservice courses have been planned and are being offered to ninety inservice teachers in northwest Ohio to help them plan and utilize instructional programs in competency-based education. In addition, all inservice personnel cooperating with the Toledo CBE program have opportunities for special inservice activities in the area of whatever CBE skills or problems they may be concerned with.

3) A special inservice program on IGE is being organized and pilot-tested for the adult volunteers who serve as aides in IGE schools. A similar program will be organized for the administrators of IGE schools. One outcome of both efforts will be the preparation of training materials and instructional modules.

4) An evaluation process is being developed designed to establish criteria for qualifying schools as IGE operations. An evaluation plan will be constructed and tested in a pilot run.

5) A specific plan for teacher education center dissemination in connection with the Ohio IGE network is being developed.

6) An evaluation-research model for validating CBE is in process. This will be a comprehensive model that looks at the links between teacher performance and student outcomes. It is anticipated that initial activities for testing the model and obtaining validation information for the CBE program will be implemented within the next year.

The CBE Center also proves general training and developmental assistance to CBE program developers in the area and training programs in research and evaluation in CBE for national educational leaders.

The project is directed by Dean George E. Dickson, The University of Toledo College of Education, Toledo, Ohio 43606. Telephone: 419/537-2025.

University of Wisconsin CBE Center

Funded most recently as a CBE Center, initially as an Elementary Teacher Education Models Project, and with supplementary funding from local sources and additional Federal agencies, the Wisconsin Elementary Teacher Education Project has contributed to the understanding and improvement of Competency Based Teacher Education primarily through the development of prototypic products and through technical assistance. State and national dissemination of each product has been a substantial part of the project effort.

Specifically, the following products have been developed and nationally disseminated in a variety of ways.

Teacher Education Design for the University of Wisconsin

This project generated the support and efforts of forty faculty members and as many students over a three year planning period. The six-volume planning document has provided impetus for many changes in our local program, has been distributed internationally, and has been the subject of much discussion through local assistance programs offered by faculty members of the University of Wisconsin. The cost effectiveness analysis of the costs of design and implementation of a CBE program has proved especially useful in those discussions.

Wisconsin Instructional Module

Early in the CBE movement considerable attention was directed to a study of the nature of modules for use in CBE programs. The Wisconsin Instructional Module (WIM) design was prepared as a document that addressed the major issues and problems associated with construction of modules and with their effective use in instructional programs.

Prototypic Mathematics Module

A prototype of the WIM, the Mathematics Module was developed to include a variety of media, an assessment program, and a management system all within a single module. The module exists as a multi-media package. This module has been used as a demonstration piece to raise questions and issues about module development design, production procedures and costs of module production.

Descriptor for the Analysis of Individualized Instruction

On the assumption that competency based education is automatically individualized/personalized education, the Descriptor was developed to assist with an understanding of the nature of individualized instruction in a variety of instructional settings. It has also been used to facilitate communication about specific individualized programs. A manual that accompanies the Descriptor has been distributed to over 100 staffs nationally.

PERT Management for CBTE

A computerized PERT program was developed specifically for use in the management of CBTE programs supported through Teacher Corps. The PERT program has been field-tested in several Teacher Corps programs and has been used locally to assist in management. A slide-tape presentation accompanies the manual written for PERT Management of Teacher Corps CBTE programs.

Computer Managed Instruction for CBE Programs

The Wisconsin Elementary Teacher Education Project initially planned for extensive use of computers in education and instructional management. CMI has continued as a major thrust of the CBE Center. Currently a computer managed instructional system has been developed cooperatively with other agencies functioning in elementary mathematics. An adaptation of that program was developed for the management of instruction in Teacher Corps CBTE programs. A new venture is just getting underway with local public school funding for the development of a second generation CMI program for elementary teachers in approximately 15 school systems.

Intern Self-Assessment/Supervisory Program

This program is designed for use in competency based programs to assist interns in analyzing their behavior in repeated instructional settings so that improvement results through personal self-assessment. This program is underway through the cooperation of several teacher education institutions and schools throughout the state and is coordinated by the Wisconsin Improvement Program of the Department of Public Instruction.

Teacher Center Study

A review of Teacher Center concepts in Japan, England and the United States resulted in a report of case studies. Implementation plans and recommendations for a State Network of Teacher Centers is a part of current recommendations of the Wisconsin State Commission on Teacher Education.

The CBE Center also provides general training and developmental assistance to CBE program developers in the area and training programs in computer usage in CBE for national educational leaders.

The project is co-directed by M. Vere DeVault and John M. Kean, University of Wisconsin, Madison, Wisconsin. Telephone: 608/263-4600.

CBE Supports Other Educational Reform Strategies: A Matrix

CBE inter-agency projects as well as the university-based CBE Centers are closely involved with other reform programs and practices in American education today. The following matrix shows inter-relationships:

	Demonstration Training Programs	Governance	Teacher Center	In-Service	Module D & T	Dissemination	COP/UR	Assessment R & D	Competency Profile
tional Committee		X		X	X	X	X	X	
lti-States Consortium		X		X	X	X		X	X
terstate Certification								X	X
tate CBE Models		X	X	X	X	X		X	X
E Consortium		X	X	X	X	X	X	X	X
olumbia	X		X						X
S.U.	X		X	X	X	X	X		
eorgia	X	X		X	X	X		X	X
ouston	X		X	X	X	X		X	
S.U.	X			X	X			X	
C.E.	X	X		X		X	X	X	X
yracuse	X		X	X	X	X			X
oledo	X		X	X	X	X		X	
isconsin	X			X	X				X

Documentation	Management System	Cost	Leadership Training	CBE Accreditation and Certification	National Clearinghouse on CBE
X	X		X	X	X
X	X		X	X	X
X			X	X	
X	X		X	X	
X	X	X	X		X
		X	X		
X	X		X		
X			X		
X			X		X
			X		
X			X		
			X		
X			X		
		X	X		

COMPETENCY BASED EDUCATION : Definition

Competency-based education is both a specific approach to the teaching-learning process as well as a general programatic orientation.

Specifically, an education program in which the competencies (knowledge, skills, and behaviors) to be acquired demonstrated by the student, and the criteria to be applied in assessing the student's relative achievement of those competencies are made explicit and public and the student is held accountable for meeting those criteria.

Generally, the competency based process or orientation usually has the following characteristics:

-- individual learner focused

--emphasis placed upon exit requirements with considerable flexibility in entrance requirements

-- achievement held constant and time varied

-- systematic

-- broad-based decision making

-- heavy emphasis on needs assessment

-- multiple program options for every set of objectives which introduces the rigor of making reasoned choices

-- continual evaluation-feedback--adjustment cycle basic part of program

-- responsive to the individual's talents and abilities rather than prescriptive

-- field-oriented

-- assessment-evaluation used as management tools

The Potential Benefits of the Competency-Based Approach

1. Establishing standards. Both in education and in jobs there has been growing uneasiness about the value of time-based credentials. While they indicate the completion of a certain number of years of schooling, they are not reliable indicators of an individual's competence. Better evidence is required of what individuals are able to do.

2. Increasing Productivity of Educational Institutions. As long as time-based degrees and normed tests are the means for establishing credentials, there is little that can be done to measure or improve the productivity of educational systems. The competency-based approach allows for greater experimentation with the means of acquiring skills and it generates the outcome data needed to assess productivity.

3. Expanding the Choices Open to Educational Consumers. The presence of explicit standards for awarding credentials permits individuals to choose varied routes to attain the knowledge and skill needed to obtain a particular credential. Individuals may move back and forth between education and work without significantly affecting the time or cost of attaining a desired credential as extra-school experiences become recognized and legitimated as means of acquiring important skills. (Note: the distinction between formal and non formal education is inconsistent with CBE.

4. Expanding Access to Credentials. Access to both educational credentials and to jobs will be opened up by having explicit and public standards for determining eligibility. Since the competency-based approach permits a de-emphasis of costly and time consuming formal education, it might serve as a mechansim to reduce class differences in educational attainments. It obviously would make job discrimination more difficult; the impact of the EEOC is proof of its potential.

5. Enhancing the Quality of Institutions. The competency- based approach procides a process for planning, designing, and selecting learning experiences and assessing their efficacy as means of reaching specified objectives. This should encourage critical examination of pedagogy and curriculum and provide the basis for program renewal. The presence of predetermined standards of performance also may alter the student-teacher relationship in some positive ways.

6. Reducing the Competitive Character of Schooling. Since the gocus for evaluation shifts to the ability to meet predetermined performance standards, individuals no longer are judged by a particular period of time relative to their peers. Cooperation can be encouraged without jeopardizing the capacity to assess individual students.

7. Altering the Meaning of Educational Credentials. If credentials are more clearly related to performance, they will become more important in determining who has access to specific employment opportunities. At the same time, they will become less capricious and arbitrary as general sorting mechanisum either be able to acquire the credential at little inconvenience to themselves or it will not be required at all. The current practice of using credentials as a means of reducing the applicant pool for specific jobs irregardless of the relationship between the educational content of the credential and the job can be brought to a halt.

The movement has promise, if only in stimulating more analytical thinking and planning for the education of teachers and children, neither can exist in isolation. * Beyond this simple fact, however, are other promising signs. CBTE forces a look at the total process of teacher education. The highly individualized nature of a CBTE program requires systematic planning of both instructional resources and faculty time; data on all phases of activity must be gathered. This could help provide the feedback needed to guide the student teacher's learning experience that has been lacking in traditional teacher education. And certainly, in terms of assessing individual student teacher progress, the criteria-referenced nature of the program is superior to traditional, norm-referenced measurement.

CBTE could also incorporate and unify fragmented innovations, e.g., micro-teaching, computerized instruction. In fact, CBTE is seen as a prime user of the new technology. One authority claims the demands for record-keeping are so heavy that the computer may be the only efficient way of implementing CBTE ideas. He argues that to enhance teacher preparation significantly, technology must be adopted to help meet the demands of CBTE within the financial constraints. This could greatly expand existing knowledge concerning effective applications of technology to the educational process.

Equally significant is CBTE's potential for breaking down the traditional division between the public schools and colleges of teacher education. Broad-based decision making is central to the notion of citizen participation in a democracy; through its consortia approach CBTE fosters a desirable trend in this direction.

CBTE's emphasis on field-centered instruction could further advance a desirable trend that developed during the past decade when it became apparent that teachers were entering real classrooms not prepared to deal with the critical learning needs of educationally disadvantaged children.

Perhaps, most importantly, CBTE can foster some needed, if fragmented, research that can take us closer to the goal of understanding and perhaps ultimately defining what competent teaching really is, and thus perhaps somewhat improve the quality of teaching.

Related Educational Concepts/Thrusts

Because of its broad scope CBE relates to or "bakcs into" many other new educational innovations, e.g. career education, alternative schools, teacher centers; cultural pluralism, individually guided instruction, protocol and training materials. Following are two significant examples.

1. Career Education

   The concept of career education--broadly defined-- proposes a new partnership between educational institutions and their communities. The intention is to create new and more rewarding opportunities for work and learning interaction for both youths and adults. The specific goals for youth include the expansion of community service programs, access to more and better jobs,

and the legitimation of these extra-school experiences through formal recognition of the learning that is acquired. With respect to adults, the hope is to make educational activities more attractive by improving the delivery of educational services and by giving credit for the knowledge and skills acquired through life experiences.

The successful implementation of this concept depends in part upon the development of means of assessing the learning that takes place inside and outside of formal educational settings and upon the specification of the levels of knowledge and skill required for the award of educational credentials such as the high school diploma. These needs can be met through the adoption of the competency-based approach to credentialling and the design of educational programs.

Competency-based education refers to the determination, attainment, assessment and performance of skills required to reach desired goals. The competency-based approach focuses upon the knowledge, skills and attitudes required for successful performance in particular roles. Demonstrated competence under realistic conditions becomes the sine qua non for awarding credentials. The time, place, or manner in which the competence was acquired becomes an extraneous matter.

2. Cultural Pluralism

As an important force for educational reform, competency-based educaiton also provides a number of advantages for those developing programs in cultural pluralism: 1) program objectives are made specific and public, leaving no question about intent regarding

cultural differences; 2) program development generally takes place along collaborative lines and involves all major educational constituencies, including the community; 3) evaluation is analytic and data based rather than judgemental, and is derived from the "authority of competence," rather than from subjective, sometimes culturally biased, impressions; 4) its measures of success, based on exit criteria of performance rathern than on entrance factors or requirements, build on cultural diversity and a range of education and "life" experiences, and they focus on demonstration of competence rather than on the background or prior training of participants; 5) because learning is the constant in CBE programs, and varied routes and time periods for accomplishments are possible, individuals wanting to make up for lost time can take advantage of an early testing of competence and of gaining crediting for life experience.

Best Available

State of the Scene: A General National
Summary of Activity in Competency Based Education

1. 17 states have mandated the approach as a full new or alternative system for teacher education and certification, 15 others are considering similar action. Several states plan full implementation within the next several years.

2. Approximately 500 institutions of higher education have pilot programs, about 120 have large operating programs, and 15 have institution-wide programs.

3. In 1972 a complete bibliography on the subject had 22 items; a "complete" bibliography finished in 1974 included over 800 items covering 57 different categories.

4. Pilot programs exist for almost every conceivable category of education: adult education, teacher education, education media, library personnel, nuclear radiology, dentistry, etc.

5. 37 out of 58 national professional associations surveyed in 1974 indicated involvement in competency-based education program development.

6. Six states have mandated both competency-based education and career education as major program priorities.

7. Competency-based examinations have become part of the licensing process for several occupations and professions.

8. A major national commission including 30 prominent educators and political leaders has been formed to spearhead a national research and development program in CBE--the commission is supported by private foundations and is affiliated with the Educational Testing Service of Princeton, New Jersey.

9. Thirty-one states have joined the Interstate Certification Project concerned with the mobility of educational personnel and interstate reciprocity of teaching certificates. A major focus of the 74-75 program is on transferability problems relating to competency-based education.

10. Fourteen states have formed a national consortium for the purpose of sharing information materials and personnel and for helping member states to develop management systems for the development and use of performance-based approaches to teacher education and certification.

11. Leadership representatives from a cross section of educational constituencies--higher education, teacher professional associations, school systems, students, the basic studies, state education agencies, the Federal Government--have formed a National Committee on Performance Based Teacher Education (sponsored by the American Association of colleges for Teacher Education) to determine the "state

best copy available

of the art" of the national competency-based education movement and to support a widespread national dialogue about the progress, prospects and problems of the CBE movement.

12. Ten predominantly black southern colleges have formed a consortium to spearhead the development of competency-based education in small colleges.

13. The Fund for the Improvement of Post Secondary Education supports projects which include a large number of professions and are generally directed at the identification and formulation of competency objectives, assessment for mastering of competencies, and the design and implementation of learning processes which facilitate the attainment of specified competencies.

14. 138 Teacher Corps projects involving as many institutions of higher education and local school systems give high priority to CBE programming.

15. A national occupational competency Testing Institute has been formed at the Education Educational Testing Service, Princeton, New Jersey.

16. HEW is supporting the development of alternative approaches to staff development for adult educators in all 10 HEW regions. Two regions (II,III) have concentrated on competency-based education, others have focused on related approaches.

17. Ohio State Universities Career Education Personnel Development Project (USOE) is developing competencies for teacher education in career education.

18. There is a National Clearinghouse on PBTE at American Association of Colleges for Teacher Education, in Washington, D.C.

19. There is a National Clearinghouse on Individualized Instruction at Georgetown University, Washington, D.C.

20. There is a National Clearinghouse for CBE in Community and Junior Colleges, University of Florida, Gainesville, Florida.

21. There is a National Clearinghouse for Action Research in CBE, at Bowling Green University, Bowling Green, Ohio.

22. There are nine Regional Competency-Based Education Centers supported by the Office of Education to develop experimental CBE models in teacher education and to provide developmental assistence and training services for those interested in installing CBE programs.

23. The American Bar Association is sponsoring a study of (Hastings Law School, San Francisco) the implications of CBE movement for training of lawers and for education related court cases.

24. The School Library Manpower Project administers six experimental program model in competency-based library-media education.

25. Over two years the AACTE National Committee has sponsored 10 regional leadership training institutes for over 2,000 educational leaders.

26. A Virtual "National Storehouse" of related materials have been developed at colleges, universities and Federally supported educational laboratory and research and development centers, e.g. 145 validated protocol packages, 650 (Gage Catalogue) validated training materials, mini courses, ITU Teachers College Units, Parson's Guided Self Analysis, Interaction Analysis Packages, IGE packages.

27. The Educational Testing Service is developing and testing taxomony and assessment instruments for identifying and evaluating competencies acquired in domestic and volunteer activities.

28. The Council for the Advancement of Small Colleges is conducting case studies regarding the cost effectiveness in a variety of CBE programs.

29. A number of skills and competency banks have been developed at several institutions of higher education and regional education laboratories.

30. Large module banks exist at approximately 10 institutions--Federally supported centers at the University of Houston.

31. Four states have developed state-level generic competency-catalogues.

32. The Antioch administered University Without Walls Program provides external degree opportunities for thousands of students through a national network of _____ colleges and universities.

33. The Open University of the United Kingdom enrolls nearly 50,000 students from all walks of life and is the largest educational publisher in the nation.

34. New York State has developed an external degree program in the fields of nursing (AA&BA), business administration (AA) and the liberal arts (AA&BA). (heavy emphasis on life experience and military experience).

35. The Learning Resource Center in Syracuse, New York has goal of providing competency-based external degrees to 5,000 adults in the next several years.

36. A growing list of institutions have developed CBE programs in school administration, including Alabama A&M University, Arizona State University, Bank Street College, University of Connecticut, Florida Internationa, University of North Florida, University of Georgia, Governous State University, University of Kansas, Iowa College, St. John's University, Columbia Teacher's College, University of Houston, Weber State College, Univo-sity of Utah, University of Vermont.

37. An Institute for Research and Development of Competency-Based Teacher Education Programs has been formed in the College of Education at Wayne State University.

38. The Department of Supervision and Curriculum Development at the University of Georgia is developing a competency-based center in Curriculum and Supervision. A number of other places now have CBE degree programs in supervision, including University of California at Santa Barbara, Florida International University, University of North Florida, Governous State University, Tri State College, Louisiana State University, Weber State College, and the University of Utah.

39. The American Association of School Librarian Division of the American Library Association has formed a committee to develop a competency-based certification model for school media personnel.

40. The Model Legislation Project, working in cooperation with the Lawyers Co-mittee for Civil Rights Under the Law, made an analysis of all state regulations and laws relating to education (developed 3,000 pp. index) and as one consequence, is developing model legislation for competency-based education.

41. Six leading CBE states, working with the National Commission on PBE, are developing plans for coordinating research programs and sharing results.

42. Competency-Based Education is one of the major priority areas in a newly developing Federal Government interest in finding ways to diminish the isolation of formal education. Three Federal agencies (HEW, Commerce, Labor) have formed inter-agency task forces--including one on CBE--to work on the problem.

43. The National Institute of Education is supporting a number of significant CBE efforts--two of the most important being the California Project which is examining relationships between teaching and learning in key subject areas and the Oregon State Project which is developing CBE programs at the high school level. A large number of other NIE projects have important implications for CBE program developers.

44. Experience to date in implementing CBE programs for educational personnel development includes the:

--conceptualization and initial development of an array of CBE pilots
--implementation, evaluation, and revision of many of these pilots
--development of a wide array of instructional materials and resources
--building of relevant data banks
--development of new assessment procedures and instruments
--development of competency lists

COMPETENCY BASED EDUCATION:
SOME PROBABLE QUESTIONS AND SOME POSSIBLE ANSWERS

1. Q. What is competency-based Education?

   A. Competency-based education is both a specific approach to the teaching-learning process as well as a general programatic orientation.

   Specifically, an education program in which the competencies (knowledge, skills, and behaviors) to be acquired demonstrated by the student, and the criteria to be applied in assessing the student's relative achievement of those competencies are made explicit and public and the student is held accountable for meeting those criteria.

   Generally, the competency based process or orientation usually has the following characteristics:

   -- individual learner focused

   --emphasis placed upon exit requirements with considerable flexibility in entrance requirements

   -- achievement held constant and time varied

   -- systematic

   -- broad-based decision making

   -- heavy emphasis on needs assessment

   -- multiple program options for every set of objectives which introduces the rigor of making reasoned choices

   -- continual evaluation-feedback--adjustment cycle basic part of program

   -- responsive to the individual's talents and abilities rather than prescriptive

   -- field-oriented

   -- assessment-evaluation used as management tools

2. Q. What is the difference between competency-based education and performance-based education?

   A. There are several differences between the two commonly used terms, CBE and PBE: the former is becoming more popular; the latter is often confused with performance contracting (It is a very different concept however and the association is unfortunate because performance contracting is generally disliked by the education community); CBE is more comprehensive in that it is generally concluded that one does not have competence unless one can perform. "(competence" advocates feel that the use of "performance" puts too much emphasis on overt behavior and excludes or downgrades the importance of knowledge and other foundations of competence.)

3. Q. What are the principal differences between a competency-based approach and a traditional one? What are the benefits?

   A. The competency-based teacher education programs attempt to overcome those often criticized faults of traditional programs:

      1. All education courses are alike; little new content is developed from course to course.

      2. Education instructors talk about individualization but do not practice it.

      3. The content in education courses is either innocuous or simplistic.

      4. Education instructors provide general philosophical ideologies, but rarely relate these to common classroom problems and subsequent solutions.

      5. The use of media and technology is discussed frequently, but few education instructors provide constant examples of this use in their classes.

      6. As a result of the great duplication of material from course to course, gaps in important educational areas are often found.

      7. Educational innovations along with the changing role of the teacher are often discussed, but few examples are utilized by the pedagogue.

Some Comparisons:

Traditional Teacher Training	Competency-based Teacher Training
Preparation for educational service conceived as a college responsibility	Preparation accepted as a mutual responsibility of colleges, school organizations, and professional associations
Program decisions made by a college faculty	Program decisions made by all who are affected
The locus of preparation viewed as being on the college campus	The locus of preparation viewed as being in the schools and their communiites
Preparation programs seen as a set of common experiences for all students	Programs seen as a set of common objectives with various and unique experiences
Preparation and staff development viewed as a function of the early part of one's career	Preparation and staff development seen as continuing throughout one's career
Profcssional career development seen as single purposed and orderly	Career development seen as multi-purposed and emerging
Competence seen as a set of credentials	Competence seen as the ability to perform
Communication about preparation in a language of courses and credits	Communication in a language of objectives and subsequent performance
Preparation viewed as impersonal and a responsibility of institutions	Preparation viewed as personal and as a responsibility of individuals and colleagues
Preparation experiences seen as orderly, objective, and logical	Preparation experiences seen as capable of being ordered, subjective as well as objective, psychological as well as rational
Feedback on preparation experiences given at the end of the semester in the form of grades	Feedback given after each experience in a language of objectives and performance

3. Expanding the Choices Open to Educational Consumers. The presence of explicit standards for awarding credentials permits individuals to choose varied routes to attain the knowledge and skill needed to obtain a particular credential. Individuals may move back and forth between education and work without significantly affecting the time or cost of attaining a desired credential as extra-school experiences become recognized and legitimated as means of acquiring important skills. (Note: the distinction between formal and non formal education is inconsistent with CBE.

4. Expanding Access to Credentials. Access to both educational credentials and to jobs will be opened up by having explicit and public standards for determining eligibility. Since the competency-based approach permits a de-emphasis of costly and time consuming formal education, it might serve as a mechansim to reduce class differences in educational attainments. It obviously would make job discrimination more difficult; the impact of the EEOC is proof of its potential.

5. Enhancing the Quality of Institutions. The competency- based approach procides a process for planning, designing, and selecting learning experiences and assessing their efficacy as means of reaching specified objectives. This should encourage critical examination of pedagogy and curriculum and provide the basis for program renewal. The presence of predetermined standards of performance also may alter the student-teacher relationship in some positive ways.

6. Reducing the Competitive Character of Schooling. Since the gocus for evaluation shifts to the ability to meet predetermined performance standards, individuals no longer are judged by a particular period of time relative to their peers. Cooperation can be encouraged without jeopardizing the capacity to assess individual students.

7. Altering the Meaning of Educational Credentials. If credentials are more clearly related to performance, they will become more important in determining who has access to specific employment opportunities. At the same time, they will become less capricious and arbitrary as general sorting mechanisum either be able to acquire the credential at little inconvenience to themselves or it will not be required at all. The current practice of using credentials as a means of reducing the applicant pool for specific jobs irregardless of the relationship between the educational content of the credential and the job can be brought to a halt.

Preparation designed for working in line and staff organizational arrangements	Preparation designed for working in collegial organizational arrangements
The teacher seen as accountable to his principal	The teacher seen as accountable to and for his students (clients)
The role of the teacher viewed as passive and subordinate	The role of the teacher viewed as active and coordinate
Voluntary professional associations viewed as being interested only in welfare and fringe benefits	Professional associations viewed as being interested in welfare and in the quality of professional practice
Preparation viewed as screening--ways to exclude people from becoming	Preparation viewed as helping--ways to include people to help them become*

4. Q. What are the benefits of the CBE approach?

A. The Potential Benefits of the Competency-Based Approach.

There are significant social and individual benefits to be derived from the adoption of competency-based techniques by educational institutions, licensing and credentially bodies, and other groups controlling access to employment, Among these are:

1. Establishing standards. Both in education and in jobs there has been growing uneasiness about the value of time-based credentials. While they indicate the completion of a certain number of years of schooling, they are not reliable indicators of an individual's competence. Better evidence is required of what individuals are able to do.

2. Increasing Productivity of Educational Institutions. As long as time-based degrees and normed tests are the means for establishing credentials, there is little that can be done to measure or improve the productivity of educational systems. The competency-based approach allows for greater experimentation with the means of acquiring skills and it generates the outcome data needed to assess productivity.

The movement has promise, if only in stimulating more analytical thinking and planning for the education of teachers and children, neither can exist in isolation. * Beyond this simple fact, however, are other promising signs. CBTE forces a look at the total process of teacher education. The highly individualized nature of a CBTE program requires systematic planning of both instructional resources and faculty time; data on all phases of activity must be gathered. This could help provide the feedback needed to guide the student teacher's learning experience that has been lacking in traditional teacher education. And certainly, in terms of assessing individual student teacher progress, the criteria-referenced nature of the program is superior to traditional, norm-referenced measurement.

CBTE could also incorporate and unify fragmented innovations, e.g., micro-teaching, computerized instruction. In fact, CBTE is seen as a prime user of the new technology. One authority claims the demands for record-keeping are so heavy that the computer may be the only efficient way of implementing CBTE ideas. He argues that to enhance teacher preparation significantly, technology must be adopted to help meet the demands of CBTE within the financial constraints. This could greatly expand existing knowledge concerning effective applications of technology to the educational process.

Equally significant is CBTE's potential for breaking down the traditional division between the public schools and colleges of teacher education. Broad-based decision making is central to the notion of citizen participation in a democracy; through its consortia approach CBTE fosters a desirable trend in this direction.

CBTE's emphasis on field-centered instruction could further advance a desirable trend that developed during the past decade when it became apparent that teachers were entering real classrooms not prepared to deal with the critical learning needs of educationally disadvantaged children.

Perhaps, most importantly, CBTE can foster some needed, if fragmented, research that can take us closer to the goal of understanding and perhaps ultimately defining what competent teaching really is, and thus perhaps somewhat improve the quality of teaching.

5. Q. What are the principal problems and issues of the CBE approach?

A. Research Base--although CBE advocates would prefer to have programs developed on a more substantial research base than now exists they feel strongly that no matter the current state of the art regarding "validated" competencies, that good educational programs must always be based upon a sythensizing of the best existing experience and knowledge regarding what works and doesn't work. Further, it is believed that the CBE approach offers the best possible way for educators to begin to make more clear what research is needed and to begin to obtain much of the data that educational policy makes are asking for. Regarding the latter point, becuase of the specificity and systematic nature of CBE programs they offer good vehicles for educational research. Therefore

the question is not one of whether or not there is a sufficient knowledge base upon which to cuild a CBE program but how developers use the research data and extensive personal experience that already exists.

The research base regarding the relationship between teaching and learning is relatively uneven and what is known has generally not been synthesized or used as a basis for program development. (Appendix A outlines some of the work that has been done to date.) The problems for CBE program developers then are 1) how best to determine the most important competencies with this relative society of "hard data" regarding what constitutes competence, 2) how to synthesize and build upon the data that do exist, and 3) how to go about getting the data that does not exist.

Instruction--CBE proponents see the emphasis on more and earlier student experience in the calssroom as providing the basis for a effective integration of theory and practice. Concern, however, is securing the informed cooperation of public schools for the effective use of CBE student teachers. Classroom teachers must receive training in CBE methods if they are to function as supervisors of student teachers.

Evaluation--The evaluation problem is perceived by some to be a major concern of the CBE approach. If, under the CBE approach, teachers are to be certified on the basis of demonstrated performance, it follows that evaluation measures must consist of classroom observation instruments. In a comprehensive review of observational studies, Mueller claims that analysts of classroom teaching generally agree that a universal definition of good teaching pertinent to all situations and to every teacher is impossible to achieve. Since a universally valid instrument to measure teaching competence is not available, an alternative would seem to be the local development of a useful instrument.

Humanist Reaction--CBE has raised the philosophic debate between the behaviorists and the humanists. The latter fear that trivial "laundry lists" of teacher competencies may preclude the search for other types of competencies that defy precise measurement. Some feel the effort to force all the purposes of teaching into a behavioral mold may be an impossible exercise.

Another view was put forward in the final report of the Basic Studies National Field Task Force on the Improvement and Reform of American Education.

"Performance-based programs can promote the most rigorous questioning of goals. James Hoetker, for example, introduces to his colleges in the liberal arts and sciences the kinds of legitimate questions which performance-based programs pose: "What are the preferences, responses, past-times, expenditures, companionships, activities that distinguish" the liberally educated man or woman "from those who have not had this advantage?" He inquires further, "Which of the behaviors of the liberally educated man do we actively discourage our students from exhibiting? Which of the behaviors of the uneducated man do we reward our students for exhibiting?"

"Once the faculty member begins to define successfully "the things a liberally educated man does that are not done by the uneducated," he or she can then consider whether the work which students undertake in his or her field contributes to a truly liberal education, one which, in William Arrowsmith's words, "liberates because it sets us free to become ourselves, to realize ourselves; it frees us to learn, slowly and painfully perhaps, our limitations and our powers, and to recognize our real modalities, undeafened by the overwhelming Muzak of the social and political enterprise."

Design and Magement by Consortia--It is a basic tenet of CBE supporters that public school staff, training institutions, professional associations, and community groups must be involved in planning and managing programs. The consortia approach has precedents in many areas of educational problem solving. However, this condition of broad-based decision making is complicated one to achieve, calling for major shifts in role definitions, values, attitudes. (Reference pubs by Hanson, Drummond, Sharron)

Certification Procedures--Assuming that the competencies, instructional modules, and assessment tools were developed, the question arises as to who will perform the evaluation and collect the evidence verifying condidates ability to perform. Since evaluation is costly for a licensing authority to undertake, responsibility is likely to be placed on the training institutions.

It is important to recognize that non-school factors are important and may affect student achievement more strongly than any educational efforts. Those in opposition to the CBE approach quickly point out that no one should be held responsible for an outcome unless he knows and is responsible for the factors that shape it. But that view can readily become a crutch for irresponsibility and stagnation.

Premature Legislation--A major concern of CBE advocates is that resistance from both classroom teachers and education college faculty may be created through poorly prepared or inappropriate legislation on certification based on CBE standards. Important issues are certain to arise with respect to re-certification of inservice teachers under any new education movement.

Development and Operating Costs--Developing a competency based system is a complex and expensive task. How much it will cost depends on a number of factors. One study indicated that the development of one program at one institution would cost between 5 and 6 million dollars. This study assumes that the program is totally competency-based and that the appropriate technological support is available. Another study foresaw a rise of 150 percent when compared with tradition of program costs. Most analysts of the cost factor agree that the costs are manageable, but only through careful development. The first study referred to suggests borrowing and sharing the work done by others, while the second study recommends a different faculty load ratio as a means of providing the necessary resources.

Some programs, i.e. University of Toledo and the University of Georgia have been initiated with a very small input of "outside" funding. Committment to the CBE concept and innovative management have resulted in redrawn priorities.

Developmental Costs. These are"start-up" costs to provide preparatory training for personnel and to provide them time to define competencies, assemble and develop instructional materials and assessment techniques, and work out procedures and devices for monitoring and managing the program. Such costs must usually be met from additional funds beyond the ordinary operating budgets. They can, of course, be kept minimal by starting new programs on a small scale.

Operational Costs. It is generally recognized that PBTE has the following operational requirements which go beyond those of traditional teacher education programs: more extensive instructional materials and equipment, more elaborate assessment procedures, and more extensive record keeping. Of particular importance is released time for school personnel supervising clinical experience. There may be offsetting savings through greater use of self-instructional materials, independent study and unsupervised group work, the elimination of many typical classes, and the reallocation of staff resources. The net effect on costs were PBTE programs to be widely adopted has not been determined! In general, individualized clinical education may be expected to be more expensive than mass education, but making the student significantly more responsible for his own education might have surprising results.

6. Q. To what extent has this approach been tried? What have been the results?

   A. The extent to which the approach has been toiled and with what results are covered in the publications listed below which are included with this briefing package. In addition some early results are particularly significant, i.e. the Georgia placement of CBE teachers is almost double that of non-CBE teacher and the retention rate of CBE students is 30% higher than in non-CBE students. Generally, it is too early to make final assessments.

7. Q. In competency-based approach, how do you determine and define competencies?

   A. A great variety of approaches are used in CBE. In some states, generic competencies are determined and required as foundation. Local education agencies determine others. In some states, local education agencies determine all competencies. In some programs, selection is based upon available evidence. In most cases, determination is made through collaborative efforts of all professional constituencies involved, e.g. teachers, administrators, college professors, state education agencies. Together they determine competencies believed to be most essential at the time, develop assessment procedures, and establish an implementation system that provides for feed-back and continual re-consideration of the competencies which are most important and how they are to be evaluated. Reference Houston simulation system as good system for introducing faculty to competency selection. Florida, Georgia and Pennsylvania education agencies have developed "catalogues" of competencies.

8. Q. To what extent does CBE tie in with the technique of setting teaching objectives, learning contracts, etc.

   A. CBE is very much related to the determination and artiaculation of objectives. FIPSE, for example, spends approximately $2 million in CBE in order to help institutions better articulate goals. See corcoan for good statement on this.

9. Q. In competency-based approach, how does instructor measure student's achievement?

   A. The major focus of CBE is on outcomes and on learners negotiating and understanding expectations. This focus on objectives and outcomes (outputs) and the responsibility it places on the learner is at the heart of CBE. Modules are developed to fit the nature of the competency to be learned and state of the art of verification/evaluation tools and techniques to measure that competency. In some areas, especially in the skill domains, instruments exist. In more complex competencies, such as behaviors, evaluation is based on the best available wisdom/inuition/ instrument. Many unique approaches exist and compilation would require hundreds of pages, i.e., Alverno state in Wisconsin has a college wide (including liberal arts) CBE program and use panels of "experts" composed mainly of practitioners in the relavant fields--bankers, salesmen, engineers--etc. Despite the increasing array of processes being tried, there is little evidence abailable as to how each works. In teacher education, much emphasis has been put on the behavior of teacher and

very little to date has been done regarding whether or not specific teacher behaviors make a difference in student behaviors or outcomes. A National Commission, supported by several private foundations, has been formed to deal with this question. Information about their activities and products should be directed to Dr. Frederick MacDonald, Director, National Commission on Performance Based Education, Education Test Service, Princeton, New Jersey.

10. Q. Are some types of courses better suited to competency-based approach than others? Which ones? Why? Can you have a curriculum with a mix of competency based courses and traditional ones? Is it a good idea?

A. Those who define CBE narrowly as instructor action and student outcome would also argue that it is easier to develo CBE programs in skill areas. Those who feel that CBE is a broad orientation or way of doing things would argue that the CBE approach can be taken to any concept or discipline. Because many institutions are in transition, many have students in both CBE and traditional courses. No one has studied the implication of this. Almost all studies compare full programs. All new approaches evolve out of past practices so it is likely that some of the best of the traditional approaches will continue to be part of education no matter how much the program emphasizes CBE.

11. Q. Where is there resistance to the CBE concept? (I understand some liberal arts teachers oppose the concepts for their courses).

A. As with any new approach, the degree of resistence is proportional to 1) degree of non-involvement in policy and program development and 2) degree to which changes will effect persons or institutions. General scale of acceptance, from highest to lowest, legislatures, state education agencies, school boards, colleges of education, school administrators and supervisors, teachers, liberal arts professors. Scale of involvement would be about the same. Scale of impact (whose effected) would be generally the same but teachers would be nearer the top. All constituencies have representatives on national committees and commissions. States in the fore of CBE generally base their programming upon local parity consortium groups Florida and Washing are the best examples. In Texas the State AAUP organization challenged a new State approved CBE certification procedure in the courts and won (they opposed having CBE mandated as the only approach to teacher education). The case is somewhat exceptional however, because such singular mandates have only occured in two states--whereas in 32 others CBE is proposed as an alternative approach to teacher education and certification. Regardless of whether or not it has been set up as a sole or alternative approach, there has been considerable opposition to the setting of deadlines for program conversion. New York has, for example, set a definite series of deadlines for all major subject areas.

12. Q. Does competency-based curriculum cost any more or less than traditional?

A. There is not much data on this yet but we do know that it depends to a large degree on amount of support/sympathy on part of people involved. Programs have been quite fully developed in 120 ihes with very little outside money. But how good these programs are is yet to be determined.

CBE Programs in 10 small southern consortium institutions cost very little money. Where? Hite in study at W. Washington showed that coversion costs decreased by 50% in second year. Toledo has the largest program in the nation and is almost entirely locally funded. Few outside dollare are needed in institutions where top administration supports the concept. Much more money is needed where there is little internal support. Costs are also higher in larger institutions where folks are generally more independent and generally garing in more of other "kinds" of $$$$$ Reference National Storehouse paper by Schmieder and Joyce where they outline extensive resources in CBE and call for more sharing to reduce costs.

13. Q. Do teachers have to have specialized training in preparation for competency-based curriculum? Dors it take a different type of teacher?

A. One of biggest problems in CBE is that model programs are built around curriculums for teachers and not for students. Nonetheless, we know that CBE teachers definitely need specialized training, because the approach is very different in such terms as organization of educatior, evaluation of education. As with all other types of education, CBE must relate to many differenty types of teachers and students. In fact the program is pointed at increasing the differences in both.

14. Q. How do students react to this concept?

A. C-llege students have responded favorably at the University of Georgia, 150 randomly sleected CBE participants were compared to a similar sized control group: in two years of the program, placement rate has been 90% in CBE, 50% in traditional; retention rate has been 98% in CBE, 65% in traditional. Concept puts students in the middle rather than the teacher--gives them responsibility, integrity, etc. As with any relatively neutral.

15. Q. Do you need to develop different instructional materials?

A. Yes. Generally CBE instructional materials are more modularized. There is an increasing national storehouse in this regard. The University of Houston Module Bank stores 500 of the best modules. One of biggest proglems in movement is that materials less permanent. The needs for evolution of CBE curriculum.

16. Q. Does this concept require any different equipment? classroom or laboratory space?

A. Yes. More space is needed for personalized study. So are better storage and retrieval systems. Reference University of Wisconsin CBE Center work on this topic. Houston Resource Center.

17. Q. Does it necessitate any different types of scheduling?

A. Yes. CBE scheduling is much more open. Genrally there is minimal "regular" scheduling. One of biggest issues in introducing CBE is that it interferes with traditional faculty practice of posting 2 hours of Office and then spending rest of time doing research.

Many new approaches to scheduling/tracking/following students are being experimented with. In extreme cases, every student has a unique schedule--therefore requiring a non-schedule for teachers.

Competency-Based Education: A Basic Library *

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*Rather than listing the items alphabetically, they are listed in "logical" order for a general briefing about competency-based education.

Recommendations for Federal Program Initiatives in CBE

The following recommendations for Federal program initiatives in CBE are a synthesis of statements and suggestions found in a wide range of government and private agency reports and publications. They reflect the views of bureaucrats, CBE critics and supporters, teachers, administrators, teacher educators and subject matter specialists. Some repitition occurs in the various suggestions despite the fact that this list was distilled from a much longer list. For the most part perspectives and emphasis vary within the seeming repititions.

The list is provided here both to suggest the range of activities felt to need Federal leadership and as a stimulus to discussion and action by those interested in CBE. Most of the lists of recommendations studied were presented as policy statements or as the "ten most important" kind of thing--based on the perspective of the report writers. If such statements reflect the real heart of the CBE matter regarding issues, problems and priorities, then it is imperative that some group of educational leaders begin to carefully analyze all of these materials, and develop a new "policy position paper" which synthesizes all of the existing policy position papers.

1. Define Federal role and articulate general CBE program strategy for Key education agencies. Summarize current Federal priorities and outline their possible implications for CBE.

2. Conduct an assessment of all Division of Education CBE programs re their relatedness to a "first cut" coordinated program plan.

3. Durvey all federal programs directed at the improvement of teacher training and analyze them regarding their "relatedness" to CBE programming.

4. Establish an independent policy panel - including representatives of all concerned constituencies, to function as an advisory group and provide leadership for the program.

5. Hold a full scale national conference to initiate the new program "thrust" but only as a first step in a comprehensive strategy of involvement and development.

6. Bring together all existing related technical assistance groups, e.g. the National Commission, the National Committee on Performance Based Education, the consortium of National Competency-Based Education Centers to develop a comprehensive developmental assistance strategy.

7. Make a comprehensive analysis of the CBE experience to date--in total, in specific fields, e.g. teacher education, law, dentistry, subject areas. Spark an "Action" National Assessment of the Experience Base, i.e. rather than passively determining who is doing what, ask--through a variety of means--program developers to come forward with their best estimation of what they are doing and can do for the program.

8. Assess the various state approaches to CBE and develop a collection of state models--both for the total program and for specific parts of programs, e.g. competency specification and evaluation.

9. Assess the national storehouse of educational materials in CBE.

10. Communication and disseminates networks should be developed to facilitate sharing of materials and program information--possibly, including the establishment of regional resource banks.

11. A joint commission of teacher educators and publishers should analyze the problem of producing suitable instructional materials and conduct market research studies to determine whether commerical development of specialized instructional materials for PBTE programs is feasible. Develop and disseminate CBE Criteria to guide developers and reviewers of CBE instructional materials.

12. Develop pilot training programs for each of the important participant groups, e.g. teachers, workers, administrators, parent, legislators.

13. Replication of Elem. Ed. Models program with appropriate changes in design and management, in engineering, business, medicine, law, etc.

14. Special funds should be provided for the developmental phase of PBTE by those budgeting for teacher education at the local, state, and federal levels. Funding agencies, in particular the U.S. Office of Education and large foundations, should provide continuing support for at least five more years. A short term commission might be formed to recommend the relative roles of the various groups and levels--or to adapt recommendations of President's Commission on School Finance.

15. State authorities should vigorously encourage experiementation with PBTE by fostering widespread discussion and funding developmental efforts and research. States developing full operational programs should maintain a flexible, open position allowing for widespread experimentation, continuous feedback and adjustment in requirements and deadlines.

16. National and state standards for accreditation of teacher education institutions and approval of teacher education programs should give positive encouragement to experimentation with PBTE and hold institutions to reasonably rigorous standards regarding the quality of such experimental efforts.

17. NCATE should apply more rigorously the present national standards which incorporate basic ideas of the PBTE strategy: specification of explicit program objectives; design of programs in relation to role conceptualization; program review, evaluation, feedback, and revision; and the evaluation of graduates.

18. Conduct research on the major occupation clusters of all major professions to identify generic, transferable competencies and job-specific competencies. The distinction could form the basis for relative emphasis in cooperative programs between formal education and work places.

19. Implement R & D and D program on CBE assessment procedures, focusing on collection and evaluation of existing instrumentation; specification of competencies; building of needed instrumentation and assessment procedures.

20. Research Consequences of Implications of Implementation of CBE programming on:
    A. Labor Market and Career Patterns
    B. Educational Systems and Operations
    C. Ed. System - Community Relations and Linkages
    D. External and Internal Economies
    E. Youth and Adults as Individuals

21. Develop program models for the collaboration of State education agencies, institutions of higher learning, and local school districts in the implementation of CBE--both within states and across states.